

CLAIM EXHIBITS

A. An isolated peptide capable of inhibiting *in vitro* the enzymatic activity of human Leukocyte Elastase (hLE) and/or of human Cathepsin G (hCG), said peptide being:

(A) a core peptide identical to positions 89-96 of the sequence of human C-reactive protein (CRP) of the formula:

Val₈₉-Thr-Val-Ala-Pro-Val-His-Ile₉₆ (SEQ ID NO:3);

(B) a modification of (A) in which one or more of the following additional modifications is optionally made:

(i) substitution of Ile₉₆ by a hydrophobic amino acid residue;

(ii) substitution of His₉₅ by Asp, Glu, Ser, Thr, Phe, or Tyr, an N-alkyl derivative of His, Asp, Glu, Ser, Thr, Phe or Tyr, or a D-form of His, Asp, Glu, Ser, Thr, Phe or Tyr;

(iii) substitution of Val₉₄ by Ala, His or Phe, or a D-form of Val, Ala, His or Phe;

(iv) substitution of Ala₉₂ by a hydrophobic amino acid residue;

(v) substitution of Val₉₁ by Ala or Gly;

(vi) substitution of Thr₉₀ by Asn, Asp, Gln, Glu, Ala, Val or Pro; and

(vii) substitution of Val₈₉ by a hydrophobic amino acid residue;

with the proviso that the residue at 89 is not Leu;

(C) a peptide obtained by elongation of (A) or (B) at the N- and/or C-terminal, but not including the entire CRP; or

(D) an amide of the C-terminal of (A), (B), or (C), and/or an N-acyl derivative of (A), (B), or (C).

B. An isolated peptide capable of inhibiting *in vitro* the enzymatic activity of human Leukocyte Elastase (hLE) and/or of human Cathepsin G (hCG), said peptide being:

(A) a core peptide identical to positions 89-96 of the sequence of human C-reactive protein (CRP) of the formula:

Val₈₉-Thr-Val-Ala-Pro-Val-His-Ile₉₆ (SEQ ID NO:3);

(B) a modification of (A) in which one or more of the following additional modifications is optionally made:

(i) substitution of Ile₉₆ by a hydrophobic amino acid residue;

(ii) substitution of His₉₅ by Asp, Glu, Ser, Thr, Phe, or Tyr, an N-alkyl derivative of His, Asp, Glu, Ser, Thr, Phe or Tyr, or a D-form of His, Asp, Glu, Ser, Thr, Phe or Tyr;

(iii) substitution of Val₉₄ by Ala, His or Phe, or a D-form of Val, Ala, His or Phe;

(iv) substitution of Ala₉₂ by a hydrophobic amino acid residue;

(v) substitution of Val₉₁ by Ala or Gly;

(vi) substitution of Thr₉₀ by Asn, Asp, Gln, Glu, Ala, Val or Pro; and

(vii) substitution of Val₈₉ by a hydrophobic amino acid residue;

with the proviso that the residue at 90 is not Glu;

(C) a peptide obtained by elongation of (A) or (B) at the N- and/or C-terminal, but not including the entire CRP; or

(D) an amide of the C-terminal of (A), (B), or (C), and/or an N-acyl derivative of (A), (B), or (C).

C. An isolated peptide capable of inhibiting *in vitro* the enzymatic activity of human Leukocyte Elastase (hLE) and/or of human Cathepsin G (hCG), said peptide being:

(A) a core peptide identical to positions 89-96 of the sequence of human C-reactive protein (CRP) of the formula:

Val₈₉-Thr-Val-Ala-Pro-Val-His-Ile₉₆ (SEQ ID NO:3);

(B) a modification of (A) in which one or more of the following additional modifications is optionally made:

(i) substitution of Ile₉₆ by a hydrophobic amino acid residue;

(ii) substitution of His₉₅ by Asp, Glu, Ser, Thr, Phe, or Tyr, an N-alkyl derivative of His, Asp, Glu, Ser, Thr, Phe or Tyr, or a D-form of His, Asp, Glu, Ser, Thr, Phe or Tyr;

(iii) substitution of Val₉₄ by Ala, His or Phe, or a D-form of Val, Ala, His or Phe;

(iv) substitution of Ala₉₂ by a hydrophobic amino acid residue;

(v) substitution of Val₉₁ by Ala or Gly;

(vi) substitution of Thr₉₀ by Asn, Asp, Gln, Glu, Ala, Val or Pro; and

(vii) substitution of Val₈₉ by a hydrophobic amino acid residue;

with the proviso that the residue at 91 is not Ala;

(C) a peptide obtained by elongation of (A) or (B) at the N- and/or C-terminal, but not including the entire CRP; or

(D) an amide of the C-terminal of (A), (B), or (C), and/or an N-acyl derivative of (A), (B), or (C).

D. An isolated peptide capable of inhibiting *in vitro* the enzymatic activity of human Leukocyte Elastase (hLE) and/or of human Cathepsin G (hCG), said peptide being:

(A) a core peptide identical to positions 89-96 of the sequence of human C-reactive protein (CRP) of the formula:

Val₈₉-Thr-Val-Ala-Pro-Val-His-Ile₉₆ (SEQ ID NO:3);

(B) a modification of (A) in which one or more of the following additional modifications is optionally made:

(i) substitution of Ile₉₆ by a hydrophobic amino acid residue;

(ii) substitution of His₉₅ by Asp, Glu, Ser, Thr, Phe, or Tyr, an N-alkyl derivative of His, Asp, Glu, Ser, Thr, Phe or Tyr, or a D-form of His, Asp, Glu, Ser, Thr, Phe or Tyr;

(iii) substitution of Val₉₄ by Ala, His or Phe, or a D-form of Val, Ala, His or Phe;

(iv) substitution of Ala₉₂ by a hydrophobic amino acid residue;

(v) substitution of Val₉₁ by Ala or Gly;

(vi) substitution of Thr₉₀ by Asn, Asp, Gln, Glu, Ala, Val or Pro; and

(vii) substitution of Val₈₉ by a hydrophobic amino acid residue;

with the proviso that the residue at 92 is not Ile;

(C) a peptide obtained by elongation of (A) or (B) at the N- and/or C-terminal, but not including the entire CRP; or

(D) an amide of the C-terminal of (A), (B), or (C), and/or an N-acyl derivative of (A), (B), or (C).

F. An isolated peptide capable of inhibiting *in vitro* the enzymatic activity of human Leukocyte Elastase (hLE) and/or of human Cathepsin G (hCG), said peptide being:

(A) a core peptide identical to positions 89-96 of the sequence of human C-reactive protein (CRP) of the formula:

Val₈₉-Thr-Val-Ala-Pro-Val-His-Ile₉₆ (SEQ ID NO:3);

(B) a modification of (A) in which one or more of the following additional modifications is optionally made:

(i) substitution of Ile₉₆ by a hydrophobic amino acid residue;

(ii) substitution of His₉₅ by Asp, Glu, Ser, Thr, Phe, or Tyr, an N-alkyl derivative of His, Asp, Glu, Ser, Thr, Phe or Tyr, or a D-form of His, Asp, Glu, Ser, Thr, Phe or Tyr;

(iii) substitution of Val₉₄ by Ala, His or Phe, or a D-form of Val, Ala, His or Phe;

(iv) substitution of Ala₉₂ by a hydrophobic amino acid residue;

(v) substitution of Val₉₁ by Ala or Gly;

(vi) substitution of Thr₉₀ by Asn, Asp, Gln, Glu, Ala, Val or Pro; and

(vii) substitution of Val₈₉ by a hydrophobic amino acid residue;

with the proviso that the residue at 94 is not Val;

(C) a peptide obtained by elongation of (A) or (B) at the N- and/or C-terminal, but not including the entire CRP; or

(D) an amide of the C-terminal of (A), (B), or (C), and/or an N-acyl derivative of (A), (B), or (C).

F. An isolated peptide capable of inhibiting *in vitro* the enzymatic activity of human Leukocyte Elastase (hLE) and/or of human Cathepsin G (hCG), said peptide being:

(A) a core peptide identical to positions 89-96 of the sequence of human C-reactive protein (CRP) of the formula:

Val₈₉-Thr-Val-Ala-Pro-Val-His-Ile₉₆ (SEQ ID NO:3);

(B) a modification of (A) in which one or more of the following additional modifications is optionally made:

(i) substitution of Ile₉₆ by a hydrophobic amino acid residue;

(ii) substitution of His₉₅ by Asp, Glu, Ser, Thr, Phe, or Tyr, an N-alkyl derivative of His, Asp, Glu, Ser, Thr, Phe or Tyr, or a D-form of His, Asp, Glu, Ser, Thr, Phe or Tyr;

(iii) substitution of Val₉₄ by Ala, His or Phe, or a D-form of Val, Ala, His or Phe;

(iv) substitution of Ala₉₂ by a hydrophobic amino acid residue;

(v) substitution of Val₉₁ by Ala or Gly;

(vi) substitution of Thr₉₀ by Asn, Asp, Gln, Glu, Ala, Val or Pro; and

(vii) substitution of Val₈₉ by a hydrophobic amino acid residue;

with the proviso that the residue at 95 is not Ser;

(C) a peptide obtained by elongation of (A) or (B) at the N- and/or C-terminal, but not including the entire CRP; or

(D) an amide of the C-terminal of (A), (B), or (C), and/or an N-acyl derivative of (A), (B), or (C).

G. An isolated peptide capable of inhibiting *in vitro* the enzymatic activity of human Leukocyte Elastase (hLE) and/or of human Cathepsin G (hCG), said peptide being:

(A) a core peptide identical to positions 89-96 of the sequence of human C-reactive protein (CRP) of the formula:

Val₈₉-Thr-Val-Ala-Pro-Val-His-Ile₉₆ (SEQ ID NO:3);

(B) a modification of (A) in which one or more of the following additional modifications is optionally made:

(i) substitution of Ile₉₆ by a hydrophobic amino acid residue;

(ii) substitution of His₉₅ by Asp, Glu, Ser, Thr, Phe, or Tyr, an N-alkyl derivative of His, Asp, Glu, Ser, Thr, Phe or Tyr, or a D-form of His, Asp, Glu, Ser, Thr, Phe or Tyr;

(iii) substitution of Val₉₄ by Ala, His or Phe, or a D-form of Val, Ala, His or Phe;

(iv) substitution of Ala₉₂ by a hydrophobic amino acid residue;

(v) substitution of Val₉₁ by Ala or Gly;

(vi) substitution of Thr₉₀ by Asn, Asp, Gln, Glu, Ala, Val or Pro; and

(vii) substitution of Val₈₉ by a hydrophobic amino acid residue;

with the proviso that the residue at 96 is not Ile;

(C) a peptide obtained by elongation of (A) or (B) at the N- and/or C-terminal, but not including the entire CRP; or

(D) an amide of the C-terminal of (A), (B), or (C), and/or an N-acyl derivative of (A), (B), or (C).